

## ABSTRACT OF THE DISCLOSURE

A method of manufacturing a metal-oxide-semiconductor transistor is provided. A substrate having a gate structure thereon is provided. A source/drain extension region is formed in the substrate on each side of the gate structure. Thereafter, a  
5 carbon-containing material layer is formed over the substrate and then the carbon-containing material layer is etched back to form spacers on the sidewalls of the gate structure. Finally, a source/drain region is formed in the substrate on each side of the spacer-coated gate structure.